

SEQUENCE LISTING

<110> KAHLERT, HELGA
 STUWE, HANS-THOMAS
 FIEBIG, HELMUT
 CROMWELL, OLIVER
 BECKER, WOLF-MEINHARD
 BUFE, ALBRECHT
 SCHRAMM, GABRIELE
 JAGER, LOTHAR
 MULLER, WOLF-DIETER



<120> GRAMINAE POLLEN ALLERGEN MUTANTS FOR SPECIFIC
 IMMUNOTHERAPY, AND PRODUCTION AND USE OF THE SAME

<130> MERCK-2034

<140> 09/381,903

<141> 2000-04-17

<150> PCT/EP98/01507

<151> 1998-03-16

<150> DE 197 13 001.4

<151> 1997-03-27

<160> 99

<170> PatentIn Ver. 2.1

<210> 1

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 1

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala
 1 5 10

<210> 2

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 2

Gly Tyr Ala Pro Ala Thr Pro Ala Ala Gly Ala
 1 5 10

<210> 3
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 3
 Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala Ala Gly
 1 5 10

<210> 4
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 4
 Pro Ala Ala Ala Gly Ala Ala Ala Gly Lys Ala Thr
 1 5 10

<210> 5
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 5
 Ala Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu Glu
 1 5 10

<210> 6
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 6
 Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu
 1 5 10

<210> 7
 <211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 7
Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp
1 5 10

<210> 8
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 8
Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn Val
1 5 10

<210> 9
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 9
Gln Lys Leu Ile Glu Asp Ile Asn Val Gly Phe Lys
1 5 10

<210> 10
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 10
Ile Glu Asp Ile Asn Val Gly Phe Lys Ala Ala Val
1 5 10

<210> 11
<211> 12
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 11

Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala
1 5 10

<210> 12

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 12

Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val
1 5 10

<210> 13

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 13

Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
1 5 10

<210> 14

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 14

Ala Ala Ala Ala Ser Val Pro Ala Ala Asp Lys Phe
1 5 10

<210> 15

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 15

Ala Ser Val Pro Ala Ala Asp Lys Phe Lys Thr Phe
1 5 10

<210> 16

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 16

Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu Ala Ala
1 5 10

<210> 17

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 17

Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser
1 5 10

<210> 18

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 18

Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys
1 5 10

<210> 19

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 19

Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala Ala Ala
1 5 10

<210> 20

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 20

Phe Thr Ser Ser Ser Lys Ala Ala Ala Lys Ala
1 5 10

<210> 21

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 21

Ser Ser Lys Ala Ala Ala Lys Ala Pro Gly Leu
1 5 10

<210> 22

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 22

Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys
1 5 10

<210> 23

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 23

Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala
1 5 10

<210> 24

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 24

Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr Ser
1 5 10

<210> 25

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 25

Val Pro Lys Leu Asp Ala Ala Tyr Ser Val Ala Tyr
1 5 10

<210> 26

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 26

Leu Asp Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala
1 5 10

<210> 27

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 27

Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala
1 5 10

<210> 28

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 28

Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu
1 5 10

<210> 29

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 29

Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
1 5 10

<210> 30

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 30

Val Gly Ala Thr Pro Glu Ala Lys Phe Asp Ser Phe
1 5 10

<210> 31

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 31
Thr Pro Glu Ala Lys Phe Asp Ser Phe Val Ala Ser
1 5 10

<210> 32
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 32
Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu
1 5 10

<210> 33
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 33
Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg
1 5 10

<210> 34
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 34
Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala
1 5 10

<210> 35
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 35

Leu Thr Glu Ala Leu Arg Val Ile Ala Gly Ala Leu
1 5 10

<210> 36

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 36

Ala Leu Arg Val Ile Ala Gly Ala Leu Glu Val His
1 5 10

<210> 37

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 37

Val Ile Ala Gly Ala Leu Glu Val His Ala Val Lys
1 5 10

<210> 38

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 38

Gly Ala Leu Glu Val His Ala Val Lys Pro Val Thr
1 5 10

<210> 39

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 39

Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro
1 5 10

<210> 40

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 40

Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met Ala
1 5 10

<210> 41

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 41

Pro Val Thr Glu Glu Pro Gly Met Ala Lys Ile Pro
1 5 10

<210> 42

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 42

Glu Glu Pro Gly Met Ala Lys Ile Pro Ala Gly Glu
1 5 10

<210> 43

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 43

Gly Met Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile
1 5 10

<210> 44

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 44

Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys
1 5 10

<210> 45

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 45

Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
1 5 10

<210> 46

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 46

Leu Gln Ile Ile Asp Lys Ile Asp Ala Ala Phe Lys
1 5 10

<210> 47

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 47

Ile Asp Lys Ile Asp Ala Ala Phe Lys Val Ala Ala
1 5 10

<210> 48
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 48
Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala
1 5 10

<210> 49
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 49
Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala
1 5 10

<210> 50
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 50
Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp
1 5 10

<210> 51
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 51
Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp Lys Phe
1 5 10

<210> 52
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 52
Ala Thr Ala Pro Ala Asp Asp Lys Phe Thr Val Phe
1 5 10

<210> 53
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 53
Pro Ala Asp Asp Lys Phe Thr Val Phe Glu Ala Ala
1 5 10

<210> 54
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 54
Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys
1 5 10

<210> 55
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 55
Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys
1 5 10

<210> 56
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 56
Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser Thr
1 5 10

<210> 57
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 57
Phe Asn Lys Ala Ile Lys Glu Ser Thr Gly Gly Ala
1 5 10

<210> 58
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 58
Ala Ile Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr
1 5 10

<210> 59
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 59
Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys
1 5 10

<210> 60
<211> 12
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 60

Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser
1 5 10

<210> 61

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 61

Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
1 5 10

<210> 62

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 62

Tyr Lys Cys Ile Pro Ser Leu Glu Ala Ala Val Lys
1 5 10

<210> 63

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 63

Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr
1 5 10

<210> 64

<211> 12

<212> PPT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 64

Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr
1 5 10

<210> 65

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 65

Ala Val Lys Gln Tyr Ala Ala Thr Tyr Ala Ala
1 5 10

<210> 66

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 66

Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln
1 5 10

<210> 67

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 67

Ala Ala Thr Val Ala Ala Ala Pro Gln Val Lys Tyr
1 5 10

<210> 68

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 68

Val Ala Ala Ala Pro Gln Val Lys Tyr Ala Val Phe
1 5 10

<210> 69

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 69

Ala Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala
1 5 10

<210> 70

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 70

Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys
1 5 10

<210> 71

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 71

Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr
1 5 10

<210> 72

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 72

Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met Ser
1 5 10

<210> 73
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 73
Leu Thr Lys Ala Ile Thr Ala Met Ser Glu Val Gln
1 5 10

<210> 74
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 74
Ala Ile Thr Ala Met Ser Glu Val Gln Lys Val Ser
1 5 10

<210> 75
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 75
Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala
1 5 10

<210> 76
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 76
Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala
1 5 10

<210> 77
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 77
 Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
 1 5 10

<210> 78
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 78
 Gln Pro Ala Thr Gly Ala Ala Thr Val Ala Ala Gly
 1 5 10

<210> 79
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 79
 Thr Gly Ala Ala Thr Val Ala Ala Gly Ala Ala Thr
 1 5 10

<210> 80
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 80
 Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala
 1 5 10

<210> 81
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 81
Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala
1 5 10

<210> 82
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 82
Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala
1 5 10

<210> 83
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 83
Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala Thr Val
1 5 10

<210> 84
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 84
Gly Ala Ala Ser Gly Ala Ala Thr Val Ala Ala Gly
1 5 10

<210> 85
<211> 12

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 85
 Ser Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys
 1 5 10

<210> 86
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 86
 Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val
 1 5 10

<210> 87
 <211> 265
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Recombinant
 allergen

<400> 87
 Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
 1 5 10 15

Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
 20 25 30

Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val Pro Ala Ala
 35 40 45

Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala
 50 55 60

Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr
 65 70 75 80

Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
 85 90 95

Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly
 100 105 110

Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met
 115 120 125

Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
 130 135 140

Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp
 145 150 155 160

Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser
 165 170 175

Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
 180 185 190

Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val
 195 200 205

Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met
 210 215 220

Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
 225 230 235 240

Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala
 245 250 255

Thr Val Ala Ala Gly Gly Tyr Lys Val
 260 265

<210> 88

<211> 265

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recombinant
 allergen

<400> 88

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
 1 5 10 15

Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asp
 20 25 30

Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
 35 40 45

Leu Ala Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala
 50 55 60

Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr
 65 70 75 80

Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
 85 90 95

Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly
 100 105 110
 Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met
 115 120 125
 Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
 130 135 140
 Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp
 145 150 155 160
 Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser
 165 170 175
 Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
 180 185 190
 Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val
 195 200 205
 Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met
 210 215 220
 Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
 225 230 235 240
 Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala
 245 250 255
 Thr Val Ala Ala Gly Gly Tyr Lys Val
 260 265

<210> 89

<211> 265

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recombinant
allergen

<400> 89

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
 1 5 10 15
 Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
 20 25 30
 Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
 35 40 45
 Leu Ala Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala
 50 55 60
 Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr
 65 70 75 80

Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
 85 90 95
 Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly
 100 105 110
 Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met
 115 120 125
 Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
 130 135 140
 Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp
 145 150 155 160
 Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser
 165 170 175
 Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
 180 185 190
 Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val
 195 200 205
 Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met
 210 215 220
 Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
 225 230 235 240
 Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala
 245 250 255
 Thr Val Ala Ala Gly Gly Tyr Lys Val
 260 265

<210> 90

<211> 265

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recombinant allergen

<400> 90

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Cys Gly Ala Ala
 1 5 10 15
 Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
 20 25 30
 Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
 35 40 45

Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala
 50 55 60
 Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr
 65 70 75 80
 Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
 85 90 95
 Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly
 100 105 110
 Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met
 115 120 125
 Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
 130 135 140
 Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro Ala Asp Asp
 145 150 155 160
 Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile Lys Glu Ser
 165 170 175
 Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
 180 185 190
 Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val
 195 200 205
 Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met
 210 215 220
 Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
 225 230 235 240
 Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala
 245 250 255
 Thr Val Ala Ala Gly Gly Tyr Lys Val
 260 265

<210> 91

<211> 182

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recombinant allergen

<400> 91

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
 1 5 10 15
 Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
 20 25 30

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Val | Gly | Phe | Lys | Ala | Ala | Val | Ala | Ala | Ala | Ala | Ser | Val | Pro | Ala | Ala | |
| 35 | | | | | | 40 | | | | | | 45 | | | | |
| Leu | Ala | Gly | Glu | Leu | Gln | Ile | Ile | Asp | Lys | Ile | Asp | Ala | Ala | Phe | Lys | |
| 50 | | | | | | 55 | | | | | | 60 | | | | |
| Val | Ala | Ala | Thr | Ala | Ala | Ala | Thr | Ala | Pro | Ala | Asp | Asp | Lys | Phe | Thr | |
| 65 | | | | | | 70 | | | | | | 75 | | | 80 | |
| Val | Phe | Glu | Ala | Ala | Phe | Asn | Lys | Ala | Ile | Lys | Glu | Ser | Thr | Gly | Gly | |
| | | | 85 | | | | | | 90 | | | | | | 95 | |
| Ala | Tyr | Asp | Thr | Tyr | Lys | Cys | Ile | Pro | Ser | Leu | Glu | Ala | Ala | Val | Lys | |
| | | | 100 | | | | | | 105 | | | | | | 110 | |
| Gln | Ala | Tyr | Ala | Ala | Thr | Val | Ala | Ala | Ala | Pro | Gln | Val | Lys | Tyr | Ala | |
| | | | 115 | | | | | | 120 | | | | | | 125 | |
| Val | Phe | Glu | Ala | Ala | Leu | Thr | Lys | Ala | Ile | Thr | Ala | Met | Ser | Glu | Val | |
| | | | 130 | | | | | | 135 | | | | | | 140 | |
| Gln | Lys | Val | Ser | Gln | Pro | Ala | Thr | Gly | Ala | Ala | Thr | Val | Ala | Ala | Gly | |
| 145 | | | | | | 150 | | | | | | 155 | | | 160 | |
| Ala | Ala | Thr | Thr | Ala | Ala | Gly | Ala | Ala | Ser | Gly | Ala | Ala | Thr | Val | Ala | |
| | | | 165 | | | | | | 170 | | | | | | 175 | |
| Ala | Gly | Gly | Tyr | Lys | Val | | | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | | |

```
<210> 92
<211> 137
<212> PRT
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Recombinant allergen

```

<400> 92
Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
  1          5          10          15
Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
          20          25          30
Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
          35          40          45
Leu Ala Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser Leu Glu Ala
  50          55          60
Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Gln Val
  65          70          75          80

```

Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met
85 90 95

Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala Ala Thr Val
100 105 110

Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser Gly Ala Ala
115 120 125

Thr Val Ala Ala Gly Gly Tyr Lys Val
130 135

<210> 93

<211> 241

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Recombinant
allergen

<400> 93

Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala Gly Ala Ala
1 5 10 15

Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Asp Ile Asn
20 25 30

Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Ser Val Pro Ala Ala
35 40 45

Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser Ser Lys Ala
50 55 60

Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp Ala Ala Tyr
65 70 75 80

Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu Ala Lys Phe
85 90 95

Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val Ile Ala Gly
100 105 110

Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu Pro Gly Met
115 120 125

Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys Ile Asp Ala
130 135 140

Ala Phe Lys Val Ala Ala Thr Ala Ala Gly Gly Ala Tyr Asp Thr Tyr
145 150 155 160

Lys Cys Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala
165 170 175

Thr Val Ala Ala Ala Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala
180 185 190

Leu Thr Lys Thr Ile Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln
 195 200 205

Pro Ala Thr Gly Ala Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala
 210 215 220

Ala Gly Ala Ala Ser Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys
 225 230 235 240

Val

<210> 94
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 94
 atatggatcc atcgagggaa gggccgatgc cggctacgcc 40

<210> 95
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 95
 gaacgctagc gccgcagggg cgctggc 27

<210> 96
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 96
 gcgctagcgt tcaagacctt cgag 24

<210> 97
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer



Creation date: 09-08-2003
Indexing Officer: FNIGATU - FITSUM NIGATU
Team: OIPEBackFileIndexing
Dossier: 09381903

Legal Date: 04-17-2000

| No. | Doccode | Number of pages |
|-----|---------|-----------------|
| 1 | A... | 2 |
| 2 | REM | 1 |

Total number of pages: 3

Remarks:

Order of re-scan issued on